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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,992	10/20/2003	Hiroyuki Nitta	500.39243CX1	1371

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EXAMINER

AMADIZ, RODNEY

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/687,992

Applicant(s)

NITTA ET AL.

Examiner

Rodney Amadiz

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2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-15 is/are rejected.
- 7) ☐ Claim(s) 7, 8, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/698,187.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ✓ 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ✓ 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6 and 9-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura (U.S. Patent 6,281,826).

As to claims 1, 9 and 10, Kimura teaches a display device comprising: a display panel having a plurality of pixel portions arranged in a matrix (See Fig. 51, pixel section defined by liquid crystals 6022 and TFT's 6012); a scanning circuit to scan lines of said pixel portions (6200); and a driver circuit (6100) to provide said pixel portions with a gray-scale voltage corresponding to display data, a precharge voltage driver circuit (6300) for providing a voltage different from the gray-scale voltage corresponding to said display data (See Fig. 49B and Col. 15, lines 32-38 and Col. 43, lines 14-20), and a control circuit to control ON or OFF of said precharge voltage based on a value of said display data (6320—See also Col. 16, lines 37-45 and Col. 50, lines 1-4), wherein said precharge voltage driver circuit provides said precharge voltage to said pixel portions prior to providing the gray-scale voltage corresponding to said display data (Col. 13, lines 5-13), during one period of scan horizontal periods in which said scanning circuit

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scans said pixel portions (Col. 44, lines 27-29) See Fig. 53 and note BL<sub>1st</sub>), and wherein the polarity of said gray-scale voltage is equal to the polarity of said precharge voltage (Col. 13, lines 18-22 and Fig. 57).

As to claims 2 and 11, Kimura teaches the display device, wherein said control circuit determines whether said driver circuit should provide said precharge voltage based on the value of said display data, and wherein said driver circuit provides said precharge voltage when said control circuit determines that said driver circuit should provide said precharge voltage (Col. 43, line 63—Col. 44, line 14).

As to claims 3 and 12, Kimura teaches said control circuit determining whether said driver circuit should provide said precharge voltage based on the value of upper bits of said display data (Col. 43, line 63—Col. 44, line 14—Note that the most significant bits of the display data determine whether the display data is positive or negative and based on this polarity the control circuit chooses to supply a positive precharge or a negative precharge.)

As to claims 4 and 13, Kimura teaches said control circuit determining that said driver circuit should provide said precharge voltage when the gray-scale voltage corresponding to said display data is higher than a predetermined value (Col. 43, line 63—Col. 44, line 14—Note that when the gray-scale voltage is higher than zero (i.e. positive) the pre-charge circuit will output a positive precharge—See Also Fig. 57).

As to claims 5 and 14, Kimura teaches the display device, wherein, when said gray-scale voltage has a positive polarity, said precharge voltage is higher than the gray-scale voltage corresponding to said display data, and when said gray-scale voltage

has a negative polarity, said precharge voltage is lower than the gray-scale voltage corresponding to said display data (Col. 43, lines 14-20).

As to claims 6 and 15, Kimura teaches the display device, wherein a first period during which said driver circuit provides said precharge voltage during said one horizontal period is shorter than a second period during which said driver circuit provides the gray-scale voltage corresponding to said display data (See Fig. 53, BL<sub>1st</sub> and H<sub>1st</sub>).

***Allowable Subject Matter***

1. Claims 7, 8, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Examiner cites the following references as pertinent to the disclosure due to their relevance with precharging circuits.

Maekawa et al.	U.S. Patent 5,686,936
Maekawa et al.	U.S. Patent 5,764,207
Enami et al.	U.S. Patent 5,892,493
Uchino et al.	U.S. Patent 5,959,600
Kim	U.S. Patent 6,208,550

Aoki

U.S. Patent 6,307,532

Washio et al.

USPGPUB 2001/0033261

***Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Amadiz whose telephone number is (571) 272-7762. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R.A.  
R.A.  
12/2/05

  
SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER